VOL. VI. ROCHESTER, NEW YORK. MARCH, 1845. NO. 3.

PUBLISHED MONTHLY.

BY B. F. SMITH & CO, PROPRIETORS,

At the Seed Store, No. 4, Front Street, near Buffalo St.

DANIEL LEE, EDITOR.

Among the Correspondents are—L. B. Langworthy, N. Goodsell, Prof. C. Dewey, T. C. Peters, L. Wetherell, P. Barry, and T. H. Hyatt.

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To Correspondents.—We have received a large number of Communications during the last month, which will be published as soon as we can find room. Correspondents will please be as concise as possible. The Farmer is only half as large as we wish it was, for their accommodation. Several articles are on file for the April number. Among them one from N. Goodsell, Esq. on the "Disease of Potatoes," one from one of the best farmers in Sweden, on "Liquid Manures," and "H" on the "Best Breeds of Cattle." E. C. of Salina, A. W. of East Bloomfield, and W. S. T. of Cayuga County, are under consideration. S. Williams' Essay on Manures is in type, but necessarily crowded out this month.

Our correspondent at Perry Centre, is referred to the advertisements of J. W. Bissell & Co. and Ellwanger & Barry, for "Northern Spy" grafts. They can be depended upon as genuine.

Our correspondent at Reserve, Inda. is informed that Lucerne can be had at the Rochester Seed Store, and that Madder seed can be had of Dr. Julian X. Chabert, No. 336 Front street, New York.

Choice Seeds.—We have received from the Hon. H. L. Ellsworth, of the Patent Office, a great variety of choice seeds: they will be distributed to those who desire to test their qualities.

Our Thanks are due to Post Masters, (from whom we have received many favors,) and to many kind friends, who have exerted themselves so successfully to extend the circulation of the Farmer. We commenced the year with an edition of six thousand. This number is already nearly exhausted. We shall continue to supply the back numbers to new subscribers as long as they last. From present indications we shall be obliged to re-print the first two numbers of this year. Send in your names immediately.

The Indiana Farmer and Gardner.—We have received two numbers of this paper, published at Indianapolis, by S. V. B. Noel & Co. twice a month for $1 a year. Henry W. Beecher, Editor. The editor comes into the field like one well acquainted with the business. Instead of being discouraged by the number of new Agricultural papers, starting up all over the west, he says—

"There is already a line of agricultural papers extending from Maine to Missouri, and from Missouri to Florida. Every year adds to the number. Every year gives them better support. Papers create readers—the *supply* creates a *demand*. New papers are, like new settlers in a pioneer village, not rivals, but welcome helpers—the more the better, within certain limits. The time is coming when every good farmer would as soon be without a plow, as without an able agricultural paper. There are nearly a million of people in Indiana, and only one agricultural paper."

We have been in the habit of sending quite a large number of packages of our Farmer, to Indiana. We welcome the 'Farmer and Gardener' into the field: there is room enough and to spare. We shall expect a great increase to our subscription list from Indiana!

AGRICULTURE IN COMMON SCHOOLS.

We are surprised to find the following remarks in the Quarterly Journal of Agriculture, which may be found on page 47:

"Looking at our common schools as they now are, and are likely to remain for years to come, notwithstanding all the efforts to elevate them, we cannot but deem the plan above mentioned [the introduction of the study of agriculture into common schools] as *worse than foolish*; for the result can be nothing else than the imparting of that 'little knowledge" which is *always* a dangerous thing" (!)

The whole educational acquirements of 99 in every 100 children that now attend common schools in this state, can only be regarded as "imparting" to them a "little knowledge." If this "little knowledge" be "always a dangerous thing," then the whole common school system should be abolished. If the acquisition of a "little knowledge" of the science of agriculture will be injurious to the sons and daughters of the farmers of New York, should the Quarterly Journal of Agriculture be allowed to circulate among them? Who knows but that some of the more inquisitive of the rising generation, now attending our common schools, may extract from its ample pages that "*little*" information, which the learned professors pronounce "*a dangerous thing?*"

Mr. Pope was a man of genius, and an admirable poet; but he had no more idea of the condition of society in this state in the middle of the 19th century, and of the wants of our children, and their duties in after life, than did "the blind bard of Scio."

To read attentively good books on practical and scientific agriculture, pupils in common schools need not learn any the less of other elementary studies. No one proposes that they shall neglect orthography, writing, arithmetic, reading, grammar, or any other branch of useful knowledge. Without abating one jot or tittle of their ordinary acquirements in literary pursuits, they may add thereto much valuable information in regard to the uniform and unerring laws of nature, which fertilize the earth, and enable it to feed all that live.

American Hotel, No. 180 State Street, Albany. Having been for two months the guest of Mr. C. N. Bement, the well known keeper of the above named establishment, we deem it no more than an act of simple justice to the farming community, to say that, a better public house for them to stop at cannot be found in this, or any city. The American Hotel is Agricultural Head Quarters; and well it may be. Go where you will about this establishment, and you recognise at once that good order, good taste, and good sense, so agreeable to every intelligent farmer. Mr. B. is master of every thing pertaining to the word *comfort*.

D. L.

THE STUDY OF AGRICULTURE.

Extracts from an unpublished Work.

MINERALS AND ROCKS.

Every part of the globe which is not animal nor vegetable, including air and water, is regarded as mineral.

The term "rock," in popular language, embraces only the solid part of the earth: but in geological language it includes all loose materials, such as soil, clay, gravel, and loam.

Taken as a whole, the earth is about five times heavier than water, and two and a half times heavier than common rocks. The density of the globe increases from the surface to the centre. At the depth of 34 miles, air would become as heavy as water, and at the depth of 362 miles water would become as heavy as quicksilver. At the centre of the earth, steel would be compressed to one-fourth, and a stone into one-eighth of its bulk at the surface.

The rocks which compose the globe are divided into two great classes—STRATIFIED and UNSTRATIFIED rocks.

The latter are supposed to have been a melted mass, which, on cooling, formed a very hard, crystalline rock, like granite. Such rocks are of great and unknown thickness, and without *stratification*.

All rocks formed in water are *stratified*, or deposited in regular masses, usually on nearly parallel planes, varying in thickness from that of paper to many yards. Although, as a general rule, the lines of stratification are parallel, or nearly so, they often converge in one direction, and of course diverge in the opposite direction, giving the *strata*, or layers of rock, a wedge-like form.

It is believed by geologists, that the globe was once in a liquid, if not gaseous state. Its shape is precisely what a fluid would assume—an "oblate spheroid"—if it revolved on its axis with the known velocity of the earth. It is 36 miles farther through at the equator than at the poles. The *crystalline* form of all the rocks that lie below those that have been *deposited* and *stratified* in water, furnishes strong presumptive evidence that these ancient rocks, called "primitive" and "granite," were crystallized by the cooling of a liquid mass, just as water is crystallized when frozen into solid ice by reducing its temperature below 32 degrees.

If we admit that the now solid crust of the earth was once a melted mass, it is obvious that water must have existed in a state of vapor, or in the form of simple *gases*—that is, in *oxygen* and *hydrogen* gases. These are very light, and invisible, like common air. Many other substances beside water—particularly *carbon*, the substance that burns in wood, coal, oil and tallow, *sulphur*, *phosphorus*, and other combustibles—would have existed only in the vastly expanded and intensely heated atmosphere.

After the globe had cooled sufficiently to permit vapor to condense into water, and form an ocean around the earth, it would seem that all the *carbon* that now lies in coal-beds over much of the surface of the planet, and in the *carbonic acid* which is combined with immense and unknown quantities of lime rock, often some thousands of feet in thickness, and of vast extent—must all have been in a gaseous state.

It is obvious, that an atmosphere thus loaded with carbon, sulphur, and other poisonous gases, could not support any of the higher order of animals, or more perfect plants. The way in which this bad atmosphere was purified, and a barren granite rock rendered the fit habitation for the highest class of animals, with man at their head, is worthy of consideration. * * * * *

There can be little doubt that *internal heat*, deep in the bowels of the earth, elevates more or less frequently, and to a greater or less extent, large sections or tracts of the earth's surface. By this means islands, mountains, and whole continents may, in the course of ages, be raised by slow upheavings from the bottom of the deep sea. Mountains several miles above the level of the ocean are very common; and some of them are composed, in part, of rocks many thousand feet in thickness, having the remains of marine animals imbedded in them, showing that these rocks were deposited in water, and entombed living animals in their once-soft mass. Marine shells are often found miles above the present level of the sea. Either the ocean must have fallen some eight or ten thousand feet over its whole surface, or these fossiliferous rocks must have been elevated from the bed of an ocean where they were formed. The latter supposition is doubtless the true one.

De la Beche estimates the average height of dry land above the ocean at two miles. The average depth of the ocean is thought to be not far from two and a half miles. As nearly three-fourths of the earth's surface is covered with water, it follows, from the above facts, that all the land above the level of the ocean might be washed by rains and rivers into the sea, and not half, or more than half, fill it up.

The repeated *upheaval*, and *sinking down* of different portions of the earth's crust, have subjected every part of our planet to elevation into dry land—islands and continents—and depression into the bed of an ocean.

ORGANIC STRUCTURE AND FUNCTIONS OF CULTIVATED PLANTS.

To the practical farmer and gardener, plants may be regarded as machines, which transform the raw materials of grain, roots, hay, flax, hemp, tobacco, and cotton, into those valuable products. Hitherto we have studied the geological and chemical character of plants and animals as they exist in *rocks*, in *soil*, in *water*, and in the *atmosphere*.

We have now to study them when subject to the control of new laws, which break up previous chemical combinations, and form peculiar compounds, unlike any inorganic product, and without which all animal life would speedily become extinct. Regarding a cultivated plant as a living machine, which, if properly tended, will change stone and dirt into bread and honey, aside from the interest of the subject as a matter of science, we should investigate the *structure* of this curious machine, and the *function* or office performed by every part, that it may operate at all times to the very best advantage.

In treating of the organic structure of plants, with reference not to their botanical character, but to increase their quantity, and improve their quality by judicious culture, they may be divided into Roots, Stems, and Leaves.

ROOTS—THEIR STRUCTURE AND FUNCTIONS.

When a seed is made to sprout, the part of the new living being which is first developed, and bursts the membrane that incloses the seed, is called the *radicle*, or root. This shoots downward, as if in search of nourishment from its parent earth. Connected with the radicle, a portion of the infant plant shoots upward, as if in search of the light and heat

of the sun. This is called the *plume*, or *plumula*, from which *leaves* are developed, and the *trunk*, or stem, is formed.

The roots of plants are only the prolongation of the woody fibres and bark of the stem into the earth. The inner bark is called the *corticle*, and the outer the *epidermis*. Both of these membranous coverings of plants extend over all their roots, and are perforated by innumerable pores, called *spongioles*, or little sponges. The woody portion of roots is also very porous and spongy, so as to permit the easy ingress and egress of water, or *sap*.

All new roots put forth have their origin in the *alburnum*, or white sap-wood, that surrounds the *heart-wood*, as it is called in forest trees. It is through the numerous tubes or vessels in the sap-wood, which extend from the roots to the leaves of plants, that all liquids pass up to the latter organs. These liquids descend in vessels that lie in the corticle, or inner bark.

The obvious function of roots is to imbibe liquid nourishment from the soil, that it may pass up and supply, in part at least, the wants of the living being. It is a question of considerable importance, whether roots have the power to *discriminate* as to what substances they will admit as suitable food, and what reject as improper or poisonous. This is still an open question. Liebig, Dumas, and Boussingault, find reason to believe that roots act mechanically, like a sponge, and take in whatever substances may be held in solution in the water that enters their pores. Other physiologists, of equal distinction, believe that roots are endowed with a kind of elective affinity under ordinary circumstances, which *selects* what is needed to accomplish the purpose of nature, and *excludes* matter which would counteract that purpose.

If the stem or root of a vegetable be placed in a vessel of water, and the quantity not large, it will all be taken up, and either decomposed to furnish aliment to the plant, or it will be dissipated into the air from its leaves. When the supply is exhausted, the leaves and flowers wither, or dry like herbs and hay. In the summer season, and under the influence of a hot sun, the leaves of corn and clover curl up, because the evaporation from their surface exceeds the supply of moisture from their roots.

It is probable that the circulation of a plant is most active when the temperature of the atmosphere is such as to cause a free evaporation from its leaves, without drying them. The chill of evening, and even clouds, by checking evaporation, will enable the ascending sap to restore freshness to drooping plants without the aid of any moisture from the air. But to render their resuscitation doubly sure, nature usually condenses vapor in the form of dew, which supplies these organs, not only with water, but with carbonic acid, and other gases imbibed by the leaves, and used as food to nourish plants.

If a few leaves on a growing plant be bent over, so that they may be placed under a tumbler inverted, and full of water, and the leaves thus fixed, be exposed to the direct rays of the sun, bubbles of gas will be seen to form on the leaves, and gradually rise and collect in the bottom of the tumbler. If this gas be examined, it will be found to be pure oxygen.

If the water contain carbonic acid, it will gradually disappear, and an *equal bulk* of pure oxygen will be left in its place.

This demonstrates the important fact, that leaves, when subjected to the direct rays of the sun, have the power to decompose a compound of carbon and oxygen, which is always formed by the *burning*, *fermenting*, and *rotting* of vegetables, and by the *respiration* of all animals.

As carbonic acid exists in immense quantities in stratified rocks, particularly limestone and magnesia, it may be regarded as a mineral substance. Its important constituent—carbon—forms about 60 per cent., and sometimes 90, of mineral coal. While there are many situations, or operations in nature, in which carbon and oxygen unite to form carbonic acid, it is worthy of note that this compound is no where decomposed except in the organic laboratory of plants, and that by the action of the light of the sun. Both its carbon and oxygen are indispensable ingredients in building up the bodies of all animals; but not one of them can decompose either carbonic acid or water, and thus obtain the carbon, oxygen, and hydrogen necessary to form animal fat and muscle. Plants alone have this power.

It sometimes happens that the quantity of oxygen given off from leaves is less than the quantity imbibed in the carbonic acid. This fact is accounted for by the analysis of the plant, which shows that a portion of the oxygen has entered into the composition of the organic substances of the vegetable. On the other hand, Sprengel has demonstrated, that when plants are watered with liquids containing carbonic, sulphuric, or nitric acid, the quantity of oxygen given off by the leaves is greater than that imbibed from the air. Thus demonstrating, that those acids, when taken in by the roots, are decomposed; and as the excess of sulphur does not escape by the leaves, nor remain in the plant, it is inferred that it must make its exit from the plant by its roots.

"AMERICAN QUARTERLY JOURNAL OF AGRICULTURE AND SCIENCE."

Under the above name Prof. EMMONS, of Albany, and Dr. PRIME, of Newburgh, have commenced the publication of a handsome Quarterly of 200 pages, for the purpose of bringing to the aid of practical agriculture more science than has hitherto been done in this country. We hope that their efforts in this laudable enterprise will be crowned with success. There is enough of scientific attainment already devoted to the profession of agriculture to sustain a work of this character, if it can be placed under the inspection of all who will feel an interest in reading its pages. To medical gentlemen, who are more or less engaged in rural pursuits, and to all that have studied the sciences of geology, chemistry, vegetable and animal physiology, this Quarterly will be of great value, while common, plain farmers will also find in it much to interest and instruct them.

Its leading article, "On the Food of Plants," is a well-written essay from the pen of Dr. HUN. He follows the theory of Liebig, Dumas, and Boussaingault. Dr. H. has somehow fallen into the common error of regarding the "salts of soda, potash, alumina, silex, and other earthy and saline matters," as "not forming any part of the organized tissues of plants." He says, "they are simply deposited in these tissues, and are called the inorganic constituents of plants." On the contrary, carbon, oxygen, hydrogen, and nitrogen are regarded as *organic* elements, whether organized in plants and animals, or in the form of carbonic acid, vapor, and ammonia, in the air. This arrangement is not only *not* true to nature, but it destroys all distinction between *unorganized* carbon, oxygen, hydrogen, and nitrogen,

and these simple elementary bodies after they have been organized, to make up the principal bulk and substance of all plants and animals.

When soda, potash, iron, or lime form a part of lean meat, skin, or of any animal or vegetable tissue, they are as much *organized* or organic bodies as the carbon, water, or nitrogen which enter into the composition of the same tissues. Unorganized oxygen and hydrogen united in the form of water, are quite as much *mineral* matter as the chlorine and sodium which may be dissolved in such water.

All the elementary substances required by nature to form a perfect plant, exist in a crude, unorganized state, and are then alike inorganic bodies. So, too, when nature combines these inorganic bodies into an organized being, whether vegetable or animal, they are all alike *organized* substances. Fermentation, respiration, rotting, and combustion, *disorganize* the compounds of carbon, oxygen, hydrogen, and nitrogen, quite as much as those of soda, potash, alumina, and silex.

Plants *alone*, while acted on by a due degree of *heat, light*, and *moisture*, have the power to *reorganize* crude mineral matter, whether drawn from the earth or atmosphere. Decompose any organic substance, whether animal or vegetable, into its simple chemical compounds, like water, carbonic acid, and ammonia, and no animal can live on, or reorganize its living tissues from these inorganic bodies.

The foundation of all rational agriculture rests on a knowledge of the constituents of cultivated plants, and on a knowledge of the circumstances necessary to enable seeds, buds, and roots to multiply themselves to the largest extent at the least cost in labor and in land. To obtain this information, every farmer should study the *science*, as well as practice the *art* of his noble calling.

As a means of disseminating this invaluable scientific knowledge, we commend the Quarterly Journal of Agriculture to the favor of the agricultural community. Price $3 per annum.

FOOD OF PLANTS.

From the Maine Cultivator—"We have been very much interested in reading an address, delivered by Dr. Lee, of Buffalo, before the Monroe County Agricultural Society. He there asserts that plants—a field of wheat for instance—obtain 97 per cent. of their food, and consequently 97 per cent. of the amount of the produce is derived from the atmosphere and but 3 per cent. only obtained from the soil. How this fact is ascertained, or how it may be demonstrated, does not appear."

The editor of the Cultivator has mistaken the meaning of our remarks upon the above subject. The paragraph to which he alludes is in these words:

"I regard it as one of the greatest discoveries of the age, that *about* 97 per cent. of the ingredients which make up the whole substance of wheat, rye, corn, barley, oats, peas, and beans *exist* in the air in inexhaustible quantities. To *transmute* these aeriform bodies into the plants above named, and into grass and roots, at the *smallest expense*, is the object of nearly all your hard work."

If 100 lbs. of wheat straw be burnt in the open air, it will leave only 3½ lbs. of ash, or earthy matter; the balance, 96½ per cent., will be dissipated through the atmosphere in the form of vapor, carbonic acid, and free nitrogen. If 100 lbs. of wheat be burnt in the same way, there will remain only 1 8-10 lbs. of ash. Now, as 200 lbs of straw, in a good crop, will contain 100 lbs. of wheat, it follows that 300 lbs. of ripe wheat plants, *dry*, will yield 8 8-10 lbs. of earthy matter, lacking only 2-10ths of 1 per cent. in 300 lbs. of being precisely 3 per cent. of earthy matter.

In what way does the 97 per cent. of our cultivated plants get back from the air into our growing crops?

When plants rot on the surface of the earth, either with or without passing through the digestive organs of animals, the nitrogen which they contain passes into the air in the form of ammonia, or of a carbonate of that volatile alkali. The carbonate of ammonia, ammonia and carbonic acid, are all very soluble in water. The dews, rains, and snows bring this aeriform food of vegetables down to the earth, and convey it, still held in solution, into the roots and circulation of plants. Vegetable mould, or carbonaceous matter in the soil, having an affinity for ammonia and carbonic acid, retains these volatile elements around the roots of plants, and prevents, in a good degree, their speedy evaporation by the heat of the sun. No solid earthy matter can possibly nourish any plant unless it be *dissolved in water*, so that it can enter their *roots*; or be in the *form of gas* or *vapor*, so that it can enter their *leaves*.

In answer to the question, "How much of a field of wheat or corn comes from the air? and how much from the soil?" the author says—

"I am not prepared to speak very confidently at present in the matter. My impression, however, is that not more than *ten* per cent. of corn, and *twenty* per cent of wheat, under the most favorable circumstances, come from the earth."

By this is meant, that when the farmer takes 100 lbs. of ripe, dry corn from his field, the soil from which it was taken has lost only 10 lbs. of its solid earthy matter; and in the case of wheat, the soil loses only 20 lbs. of the constituents of that bread-bearing plant. This opinion is founded on *many facts*, which will be written out in full, and published hereafter. Suffice it to remark at this time, that a good wheat soil need not contain over 5 per cent. of those aeriform bodies—carbon, nitrogen, oxygen, and hydrogen—necessary to form 97 per cent. of a perfect wheat plant. To concede that 17 per cent. of those materials of which the soil contains only 5 per cent. come from the decomposition of earthy matter, is an allowance beyond the demand of *reason*, and probably beyond the *truth*.

In addition to what nature every where furnishes ready for the use of the practical agriculturist, we are confident that the raw materials necessary to form a bushel of good wheat, in Maine or New York, need not cost to exceed 10 cents. In this state, if we should cast into the middle of the Atlantic every year the raw material ready to coin one million of half-eagles, and save all the elements of wheat, corn, and potatoes now annually wasted, we should be largely the gainers by throwing away gold, rather than human food and raiment.

No human being, nor any domestic animal, can live without bones; nor can any of our most valuable plants grow to maturity without the presence of phosphorus and lime, the two important elements of bone. Of lime there is no lack in the country; but of *phosphorus* the supply is very small, and there are millions of acres of cultivated lands where the crops are greatly injured from the absence of this highly

combustible substance. It is mainly lost in the loss of the liquid excretions of man and beast.

It is proper to remark, in regard to the per centage of earthy matter in cultivated plants, that some contain as high as 15 per cent. Timothy hay has 9 per cent. The proportion of their substance which plants derive from the atmosphere directly through their leaves, is a matter involved in too much doubt for me to give an opinion respecting it at this time.

D. L.

Albany, Feb. 18, 1845.

HONEY-DEW.

This is a term made use of by many to denote a viscid saccharine substance often seen upon the leaves of plants during midsummer; and the more general impression is, that it descends from the atmosphere, as other dew, and has an injurious effect upon plants on which it falls, producing all manner of diseases, as rust, blights, &c., &c. I would invite the attention of such as would investigate this subject, to visit a green-house during the winter, where the glass, being kept closed, prevents a free admission of the atmosphere perpendicularly, which might be essential for depositing this substance: neither, in case it could so descend, is it supposed capable of forming it at this season.

In green-houses which are not often fumigated, plants often become infested with different kinds of aphis, or plant-lice, which are a great nuisance, and if allowed to remain long, materially injure the plants. Where elevated plants become infested with these insects, the leaves of those standing beneath them will have the same appearance that those in fields have during summer, which are said to have been the recipients of the honey-dew. Ants are known to be particularly fond of this excrementitious matter, and during summer may be seen ascending and descending such plants as are infested with different kinds of aphis—mixing with them without molesting, gathering the substance from the surface of the leaves whereon it has fallen, and often receiving it directly from the extremity of the insect, as it is ejected.

The honey-dew may, therefore, be considered nothing more nor less than matter ejected from these insects, and will be found most abundant under plants or trees on which these insect feed, or in the vicinity of woods, or swamps, from which some of the winged varieties make their flight.

While upon the subject of *dew*, will any of your correspondents inform me why it is, that during the summer, in the mornings, we often see each blade of grass ornamented with a small pearl, or dew drop, upon its extreme point, while the blade below remains dry, unless where the blade is upright, and the drop has increased beyond what the point can support, when it descends upon the blade, or drops from the point when it reclines. Has electricity any agency in the formation of these drops? If so, how is vegetation influenced by it?

N. GOODSELL.

MAPLE SUGAR.

We have in hand a communication on the subject of making maple sugar, from W. S. T., which, although a reasonable article, yet from its length we are obliged to abridge it, for the want of space. He very earnestly recommends cleanliness in the kettles and sap-troughs, or buckets, which, if old, must be well scalded; and he prefers green wood to dry, on account of the blaze, which is apt to burn and discolor the sugar.

He recommends preparation to be made early, so that the first running, which is the richest and most valuable, may be secured; and prefers the use of the augur for tapping, boring from 1¼ to 2 inches in depth, and no more. The spouts so made, that in driving in they shall only pinch at the bark and outer edge of the orifice, so as not to impede the flow of the sap. Care should be taken that the boiling works be placed near the centre of the sap bush; and in the boiling process, towards the latter end, that it does not burn. If the weather be not too warm, enough sap may be boiled at once to make from 100 to 200 lbs. before sugaring—which, when commenced, should be driven on as fast as possible, till about the consistency of good molasses, when the fire should be allowed to expire.

For clarifying sugar, he says, "many ingredients are used. Some use milk and sugar, beaten together; some use nothing but cold sap. I have used them both, but prefer clear eggs alone, as being better than eggs and milk together. Cold sap is better than milk alone, from the fact, that if milk is put in before the syrup is perfectly cold, it is apt to coagulate, and gives the sugar a bad appearance." He advises, that every time the boiling-kettle is emptied of syrup, it should be well cleaned before using it again.

We are obliged to W. S. T. for his friendly offers, and hope to hear from him again on other subjects.

Quick Vinegar Process.—Prepare a barrel, without heads, with netting or cross pieces of wood across the bottom; fill it with hard-wood shavings, loosely packed, so that a current of air can pass through, and set it over a tub. Take any quantity of rectified whiskey, and mix it with from 4 to 6 times its quantity of water, and cause it to trickle slowly on the top of the shavings until it has all passed; and so continue to pass it through until it is thoroughly converted into vinegar. It will be necessary, on first putting up the concern, to mix a small quantity of molasses with the liquor, to cause the shavings to become oxidated, after which spirits, cider, beer slops, &c., may readily be changed into vinegar in less than 24 hours.

The *rationale* of the process is—the immense surface of exposure to the air, whereby oxygen, on the acidifying principle is absorbed; in comparison with the old process, wherein only one surface comes in contact with the atmosphere.

A.

Corn-Stalk Sugar.—The manufacture of sugar from corn-stalks promises to become an extensive and profitable branch of business at the West. Mr. John Beal, of New Harmony, Indiana, has made 395 lbs. of good sugar this season, from the corn-stalks that grew on three-quarters of an acre. This is at the rate of 500 lbs. to the acre. His plan is thus briefly noticed in the Cleveland Herald; "When the ears begin to form, they are pulled off. When the leaves are dead about half way up, the stalk is stripped of leaves, cut up at the root, the top cut off, and then ground in a sugar-mill. Twenty stalks will yield about one pound of sugar. Mr. B. made 80lbs. in a day, with a simple apparatus of his own construction. 500 lbs. at 4 cents per lb, is $20 per acre. It would have produced—any fifty bushels of corn, at 25 cents, $12.—*Am. Farmer.*

CORN FODDER.

Mr. Editor,—One evidence of improvement in agriculture is the almost universal use of corn-stalks for fodder; it being as rare now to see a field of stalks left to be run over and trampled under foot by cattle, as it was, before the establishment of agricultural societies and agricultural newspapers, to see a field of corn cut up by the roots, and housed in good order for winter feeding. Many farmers are now beginning to find, that corn can be cultivated exclusively for fodder, cheaper than they can raise other feed. But there is an error very prevalent in regard to the best method of cultivation—I allude to sowing it broadcast. Farmers are so much in the habit of sowing all crops broadcast, that the subject of drilling-in crops has received but little attention. We reason, that because labor is high and land cheap, therefore we cannot afford the time and expense of drilling, but must use more land and get lighter crops. As I have had some experience in cultivating corn fodder, I think I can make it appear that the drill system of culture is the cheapest.

Lands to produce corn for any purpose should be highly manured—and of course they will be very subject to weeds. Corn cultivated in hills is usually very much injured by weeds; but very much more so when sown broadcast. Other spring grains are put in the ground so early, that they get the start of weeds; but by the time corn is planted, vegetation is rapid, and if it has to run an even race with weeds, they are sure to come off victorious. In getting the seed into the ground, sowing broadcast is the most expeditious; but this advantage is greatly overbalanced in harvesting and curing the crops. Corn fodder is the most difficult to cure of any crop within my knowledge. When we recollect, that from 800 to 1000 lbs. of syrup, boiled sufficiently to grain into sugar, has been obtained from one acre of stalks, we shall realize that stalks contain an abundance of sap.

The following method of cultivation I have practiced with good success: Prepare the land as usual for corn; mark off the drills, 3 feet apart, north and south, so as to admit the noon-day sun between the rows. Let the corn be dropped in the drills so as to have at least one kernel in every two inches. Two bushels of seed should be used to the acre, and there is not much danger of getting the corn too thickly in the drills. They should be covered by drawing the earth from each side of the drill with a hoe. As soon as the rows can be distinguished, they should be plastered, cultivated, and hoed. A skillful hand with a cultivator will perform the after-culture, as the corn will grow so rapidly as to soon cover the ground, and prevent the growth of weeds. It should be cut as soon as it gets its growth, and before frosts. The best method is to use a common corn-cutter, laying the stalks upon the ground in small bunches, and when wilted, binding them in small bundles, and stacking them in the usual manner of stacking corn. From seven to nine bundles placed in a stack, and bound around the top, will cure well. The stacks will need to stand a long time in good weather to be thoroughly cured; and after all, they will almost assuredly heat in the mow, and become mouldy, unless well salted.

Of their value as food for stock I need not speak, as horses, cattle, or sheep will discuss that matter to your entire satisfaction, provided you place them within reach.

The great difficulty with corn sown broadcast is in the harvesting and curing. I knew a crop on rich land, which grew about seven feet high, and the stalks were so limber as to scarcely bear their own weight. It had to be cut with a sickle, which was a slow, tedious process. If they can be mowed or cradled, there is still much danger of their becoming spoiled before they can be cured; and there is no safe manner of curing them except by stacking. Farmers will at once perceive that they are much more readily bound and stacked when in drills, and cut with a sickle or corn cutter, than when scattered over the whole surface.

There is another use for corn sown for fodder, which is practiced by some farmers near Boston—viz., for soiling—and it is represented as a crop equal to any of the articles used in England for that purpose. If, instead of trying to introduce foreign articles, of which we are entirely unacquainted, we should try experiments in using corn, we should probably find our account in it. We know it is congenial to our climate, and will afford wholesome food for man and beast. Yours,

MYRON ADAMS.

East Bloomfield, Jan., 1845.

CORN-COB MEAL—INQUIRY.

Mr. Editor,—Allow me to express the grateful feeling of a tiller of the soil, that we have so easy and direct a channel through which useful knowledge may flow to our understandings, as is presented in the "Farmer." This I take to be the legitimate channel to which we of Western New York are to look for the opinions and experience of those who, in their agricultural practice and researches, have gone before us, or stand above us; and when we fail to find in this channel that which is calculated to aid us in coming to right conclusions, and settling upon right grounds, any interesting and important question which may be agitating our own minds, and which is material in its effects upon the profits of cultivation or the economy of feeding, I consider it perfectly apropos to invite those who may be in possession of the knowledge which we desire, to throw it into the channel, and let it come down to us. And it is with a view to elicit facts, both scientific and experimental, on a subject which I consider of great importance to the farmer, especially of Western New York, that I beg to be allowed to propound a single question; hoping that they who have understanding in the matter will not withhold it: viz., What is the influence, or relative value, of corn cobs as food for domestic animals; and to what kind of stock can it be most profitably applied, if to any? I add "if to any," because the term "most profitable" implies that the cob may be fed to some kinds of stock with profit—a proposition which I suppose some will not acknowledge as true.

I am aware that this question has its advocates *pro* and *con*; and while one says that the cob, ground up with the corn, is worth as much as the same bulk in oats—another says, it is worth no more than so much saw-dust, and all the good it does the animal is in simply distending the stomach; and again, a third puts in his plea that neither are correct, and says, that if you take the cob in its juicy state, (that is, before the corn gets thoroughly seasoned,) you will find that it contains much nutrition, but after the corn in the ear becomes fully dry and hard, the cob becomes hard of digestion, and is no longer fit to enter the stomach of any animal.

Not being competent to analyze the cob, I cannot

reconcile these conflicting opinions, nor decide which should be entertained. If the first be correct, how much valuable food is annually lost, and how important that we, as farmers, be immediately set right; but if, on the other hand, the substance is useless, or positively injurious, how important still that we have wisdom on the subject, and not abuse the creatures committed to our care.

In the early part of last summer, I had as a traveling companion, for a day or two, a gentleman from Ohio, of apparently much intelligence and experience as a feeder, particularly of horses; and, in talking upon this subject, he said that he had fed cob meal until he had become satisfied that, to a horse in health it was decidedly injurious—to use his own expression, it made their hair stand the other way. He thought the cob possessed of a medicinal quality, which in certain cases might be useful. A neighbor of mine, last fall, carried to one of the city mills, and got ground, a quantity of ears of corn, in all ten bushels, which he fed to a cow designed for his family beef. He was well satisfied with the result, and thought it a matter of much economy. He paid 4 cents per bushel for grinding—40 cents, the price of a bushel of corn. So we see it costs just as much to grind a bushel of cobs as it does to grind a bushel of corn. Now, if it is economy to carry cobs to a mill, and pay 4 cents per bushel to have them ground, (and it certainly is, if the first of the above theories is correct,)—if they are valuable in one state, and not in another—or if they are good for cattle, while they are injurious to horses—in short, whatever truth is in the case, I for one shall be glad to have it plainly shown; and I shall keep my eye upon the *channel*, and seize with avidity upon any thing that reflects upon the point at issue.

Yours, &c. PENFIELD.

Jan. 20, 1845.

☞ Some remarks on the above will be given in our April number.

A PLEA FOR BOOK FARMING.

Mr. Editor,—Strange as it may seem, when the unbeliever seeks for arguments to disprove the truths of our blessed religion, he neither goes to the Pagan mythology, to the monstrous Hindoo superstitions, nor to the gross and self-indulgent code of morals inculcated by the Arabian prophet; but he is invariably driven to the lame alternative of judging Christianity by those very institutions and morals which Christianity itself has set up—thus unconsciously setting his own seal to the very truths which he, in his proud self-blindness, attempts to refute. So with the scoffer at *Book Farming*. How often does the poor blind, bookless farmer, insist that there can be no improvement on his mode of manuring and culture. Ask him how he manures his fields, and he will unconsciously betray the fact, that he pursues those very improvements which that prince of agricultural science, the great Tull, labored half his life to bring to the conception of the dull prejudiced mind of the English farmer. Until Tull's day, 1740, it was the practice of the farmer to take ancient customs as an infallible rule of practice—nothing was investigated, nothing was improved! The age of human progress had indeed commenced, but as yet it had shed little light on agricultural science. Such is the isolated life of the farmer, that he is generally the last in the social circle to be benefited by the progress of light and knowledge. I have often thought, when conversing with a farmer, that his prejudices were the more obdurate and unyielding from the lack of that daily collision with his fellows, without which the mind of man is continually prone to a narrow-minded, hopeless egotism.

In less than ten years after Tull had forced upon the mind of the English farmer the idea of theoretical agriculture, Mr. Bakewell commenced those experiments upon *breeding*, based upon natural principles, and a patient observation of the nature and physical organization of the animals he wished to improve; thus, the sheep which he introduced, and others have since improved, are capable of being fatted at about half the age required by the old, stunted breed. The same improvements have been made in swine, and other farm stock, until even in our own land we have hardly a farmer, however besotted his prejudices against agricultural progress, who has not inadvertently mixed the blood of his long-nosed, *land-pike* breed of hogs with that of the more comely improved animal: like the old schoolmaster in Guy Mannering, whose obdurate habits would not permit him to exchange his old, greasy, threadbare suit for a better, until it was abstracted from his bed-side at night, when he unconscicusly *donned* the new suit left in its place!

How it strikes at my life when I hear a farmer complain of his hard condition—the deterioration of his crops—the high price of labor—the low price of his produce, &c., &c. The effect upon the minds of his growing children is most disastrous; so far from teaching them to like and to learn that which cannot fail to improve and exalt his noble calling, it only leads them into the most fatal errors in relation to that which constituted both the pecuniary success and the true independence and respectability of life? When I see a boy, fresh from the farm, fatally installed into a law office, I cannot but reflect upon what Junius has said about the soul-destroying influence incidental to the legal profession. When I see him behind the counter of a village store, I can only apply to him the soliloquy of Cardinal Wolsey:

This is the end of all thy greatness!

Here falsehood and meanness have a precocious beginning, even before the end of adolescence; as his manhood develops, so does his knowledge of the tricks of trade. Like the ill-fated, demoralized, and demoralizing gambler, who has converted his wealth to mischief; so does this farmer's son go down to the grave, a bankrupt in mind, reputation, and estate; without the proud satisfaction of having made one blade of grass grow, or of leaving behind him a single, solitary example of true, exalted morality, for the benefit of his race!

Let me, then, admonish the farmer to beware how he belittles his own calling to the ears of his sons and daughters. Let him give them the best education in his power, both physical, moral, and religious. In no instance may he utter in their presence the vulgar, exploded notion, that *book learning* is only necessary to the professional man. If his own tastes are unhappily perverted, by his early defective education—if he "cannot teach and will not learn," let him, then, reflect the more on the responsibility he incurred when he became a father, and the duty he now owes to his own offspring. If he does not himself know, and cannot or will not comprehend, how one acre of arable land may be made to produce, with a little more expense, twice or even thrice the usual crop—if, by growing a green crop instead of exposing his fallow land to the rays of an American sun, his soil inspires, instead of expiring, carbon and

ammonia—let him not prevent his children from learning that which *he* will not learn, and from seeing that which he has neither eyes to see nor head to comprehend. S. W.

SUBSOIL PLOWING.

Col. Sherwood, of Auburn, made use of the subsoil plow the past season on fifteen acres. A part of the subsoiled land was planted to corn, and a part sown with wheat in the fall. The soil was loamy, and the subsoil hard clay and gravel. He used the subsoil plow of Ruggles, Nourse & Mason. It required four oxen to draw it; and to work to the best advantage, at the depth it was run in this case, which was one foot, Col. Sherwood thinks there ought to be six oxen. The team worked over from an acre to an acre and a quarter a day. The ground had not been plowed for thirty years. It was naturally wet, so much so, that in a wet time the water would stand on it to the injury of the grass. The effect of the subsoiling was, to render the soil and subsoil so friable, that the water immediately found its way through; and though a portion of the past season was very wet, the water at no time remained on or so near the surface as to do the least damage to the crop. That part which was put to corn was first planted on the 20th of May, but the seed failed, and it was planted again on the last day of May and first day of June, and grew so vigorously, that it got ripe as soon as other corn in the neighborhood. Several strips, of 20 to 30 feet wide, were left through the field not subsoiled. The difference in favor of the subsoiled portion was very obvious, in the ranker growth and larger size of the corn on that part—it was so plain, that it might be seen to a row. The different portions were not measured separately at harvest-time. The effect of subsoiling on the wheat crop cannot be told at present.—*Cultivator*.

SCIENCE AND AGRICULTURE.

A spirited writer in the London Agricultural Gazette, in speaking of the comparatively slow progress of improvement in agriculture since the days when "Adam delved and Eve spun," up to the present time, says, the scientific world is responsible for the backward state of agriculture compared with other arts, and that farmers are not altogether culpable for their ignorance respecting the scientific principles of their pursuit, since those who alone had the power, and whose province it was to give them light, did not diffuse it for their benefit, (if indeed they had discovered it,) till the example was set by the immortal Davy. Now, however, the writer thinks the farmers are promised the needed light of science, and being made familiar with its doctrines and its terms. Thus he says:

"What if Farmer Dobson *did* think, *last* year, that *Ammonia* was the name of a gentleman's daughter? He knows better this year; and next year we shall hear of his putting sulphuric acid or gypsum on his dunghill, to seize this fair lady as she flies. Why should he be expected to be a ready-made chemist? When he was a boy, chemistry was scarcely born. He had no education in chemistry. How should he know it had any thing to do with farming? He is not to be blamed for his ignorance in this matter. The blame, if anywhere, lies with those who advance it—namely, with the scientific world, who have allowed the physical world to grow nearly six thousand years old, and have only just made the notable discovery that the science of nature (chemistry) is eminently and necessarily applicable to the art of human existence—farming. I say, it is the backwardness and infancy of science, not the ignorance of farmers, that deserves reflection."—*New England Farmer*.

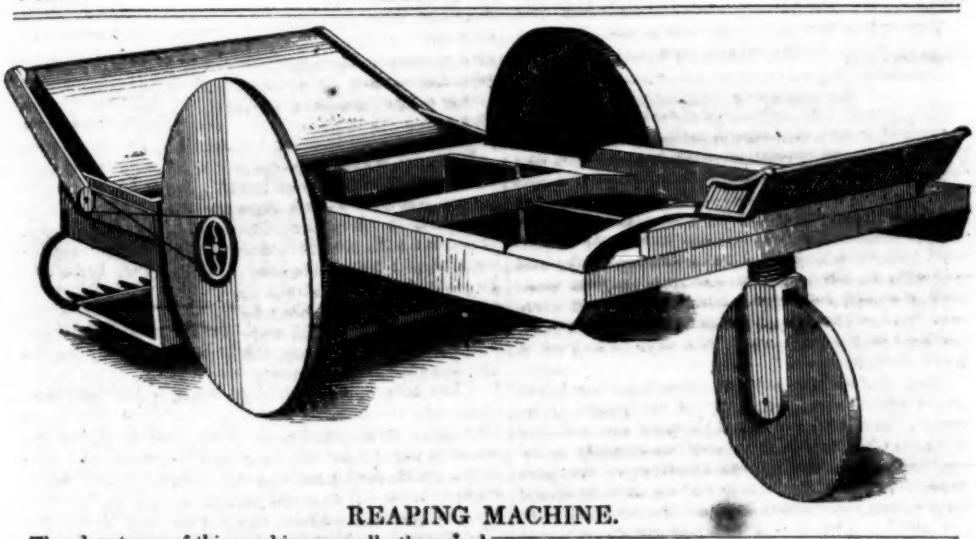
How to make a contrary Horse go at your Bidding.—A neighbor of mine once told me, that he bought one of those ill-tempered horses so often to be found, and, a day or two after the purchase, he took him to the woods to draw a load of fuel. Having placed a reasonable load on the sled, he bade him go; but no, he would not start an inch. After every fair method had been tried to induce him to start, all to no purpose—(he only exhibited feats of ill temper—snorting, leaning, dancing, backing, rearing up, &c.)—he very securely tied him to a sapling, and left him to his will. At noon he was tried again, but to no better purpose. He was then left till night: still he had no mind to go. He was now left over night: by this time he felt quite willing to move, which very kindly he did, with his load. His master then put him in the stable, rubbed him down, and gave him a good breakfast. I was told, he never after refused to move at his master's bidding. This was rather a severe chastisement, but perhaps it was the only way he could be cured of his contrary will. Probably if this horse had been properly treated when young, he might never have needed such severity.—*Mass. Ploughman*.

Statistics of Poultry.—According to the returns made by the census of 1840, the aggregate amount of capital invested in the United States in this branch of domestic industry is very great. The amount in the various states and territories is as follows:

Maine	$124,171	Kentucky	$536,439
New Hampshire	67,562	Tennessee	681,531
Vermont	176,437	Louisiana	273,314
Massachusetts	540,295	Mississippi	309,481
Rhode Island	61,492	Alabama	929,220
Connecticut	176,659	Missouri	230,983
New York	2,373,099	Indiana	393,228
New Jersey	412,487	Illinois	330,968
Pennsylvania	1,933,172	Michigan	82,730
Delaware	47,465	Arkansas	93,549
Maryland	219,156	Florida	61,007
Virginia	753,467	Wisconsin	16,167
North Carolina	544,125	Iowa	17,101
South Carolina	590,594	District of Columbia	3,092
Georgia	473,158		
Ohio	734,931	Total	$12,176,170

If you would have your fowls lay in winter, you must feed them well, procure a warm house for them, place a box containing gravel, lime, and ashes, and fresh meat two or three times a week.

There is a beautiful circumstance connected with agricultural emulation. In many of the pursuits of life, one man gets rich by making another man poor, climbs the ladder by putting his feet on another man's shoulder—or, he builds his own building out of the fragments of his neighbor's, which he has undermined. This is often a crying injustice, and inflicts many bitter mortifications, or arouses vindictive and tiger passions. Emulation in agricultural improvement enkindles no such baleful fires. A man can make no improvements in husbandry without at once extending the knowledge and advantage of them to others. The enlargement of the capacities of the soil, and every increase of its productions, confer an immediate benefit upon the whole community.



REAPING MACHINE.

The advantages of this machine over all others are as follow: its construction is of such a nature as to allow the machine to turn right or left, on any circle that may be required—the cutter having the same motion as if moving straight forward. The easy manner in which the grain is drawn down against the cutter, by the use of an endless apron, without the danger of beating out the grain, (as is the case where reels are used for that purpose;) also, the simple way in which the grain is discharged from the machine, by a man who stands upon the same platform on which the grain falls, by the use of a sort of rake or fork, in a proper shape for binding; the frame extending back far enough to admit the horses directly in rear of the machine—which is another great advantage over all machines drawn from the sill or corner. The motion of the cutter is obtained by means of internal gear, inclosed in the driving-wheels, which are made principally of cast iron—an advantage, when compared with external gearing, of 50 per cent. in the cost of the required amount of motion. It must be clearly seen, that it does away with the complications of frame-work, journals, and boxing, &c., which is required to support external gearing. There are, also, farther advantages in the internal gearing—it forms the driving-wheels, and being so inclosed, cannot possibly get out of order—and, at the same time, is entirely out of the way.

The cost of the machine will be about $75.

WM. H. KETCHUM,
E. P. NEEDHAM.

Buffalo, Feb. 1845.

As far as mechanical construction and ingenuity of contrivance in its action can be judged of, without seeing its operation, we think the above machine promises well, and will be a cheap and labor-saving machine for well-cleared fields, and particularly for the western prairies. One span of horses and two men are expected to cut from 20 to 30 acres per day.—ED. FARMER.

No man ever trusted in God but he found him faithful; nor in his own heart but he found it false. Whoever has true Christianity, cannot be poor; whoever is without it, cannot be rich.

SHADE TREES.

A very sensible correspondent of the "Boston Cultivator," in speaking some time ago of the party zeal evinced in the late campaign, and the unprofitable and foolish direction that was given to it in many respects, remarks, in regard to pole-raising—

"Had the worthy guardians of the nation's rights who reared them, planted trees with good roots in their places, a much nobler object would have been gained than any that are now existing. Then they might have stood for ages, and furnished a beautiful object for future generations to look upon, and pleasant shades for the children of future years to gather under. Then the hoary-headed sire might have told his children's children, as he sat down in the evening of his days, that "that tree was planted as a political emblem, in 1844." It would have been a beautiful theme for the men of either party to have dwelt upon, and our country would have been vastly richer in rural embellishments than it will be when these seared poles have fallen."

He also recommends, "that the members of Congress for each party, immediately on the convening of that body, call meetings of their party, and determine forthwith what trees shall be their emblems for the next campaign, and give notice thereof, with the assurance, that none will be accepted but those that shall appear the next summer full of leaf and thrifty growth."

We like the suggestion very much, though we fear it is made in vain. If carried out, it would be a new and interesting feature in politics, and one from which the country would derive some benefit, to make up for the great waste of time and labor of which we have been guilty. In passing through the country last autumn, we saw farmers and their families engaged, with the utmost enthusiasm, in erecting poles; while their dwellings, barns, fences, gardens, &c., indicated shameful neglect. We like to see a proper degree of interest taken in the affairs of the nation; but when men neglect their own daily and legitimate pursuits, to babble about politics and enact absurd and unmeaning follies, they should remember, that they are doing themselves and their country a *positive* injury. P. B.

REPORT OF THECOMMITTEE ON FARMS.

From the Second Annual Report of the Transactions of the Monroe County Agricultural Society.

The Committee on whom devolved the duty of examining such farms as applications were made from the owners, in accordance with the regulations of the society, may be expected to make a more particular and extended report than was given at the annual Cattle Show and Fair in October last, at which time some general and commendatory remarks were made by the Committee on several farms which they visited, which were not competitors; as well as upon those that were, which did not quite come up to that point of excellence in general, systematic management which the committee had laid down as their guide.

This Committee may be expected to lay down some general rules, as a criterion of what they conceive to be a true system of farming for a majority of the land in this county, and that manner of fencing, draining, manuring, and rotation of crops, and general management, upon which they predicated their premiums; and although some of those points are still unsettled, and some important questions still remain debateable by our best and most experienced farmers, yet, to exhibit the grounds upon which they arrived at their conclusions, they "will also give their opinions."

This Committee are decidedly of opinion, that the wheat crop, (combined with wool growing,) is the only crop, in this county, that farmers can depend upon for producing at all times ready money, at a fair remuneration for their labor—especially if they are located at any great distance from market. Corn, hay, oats, potatoes, pork, &c., cannot be depended upon as ready cash articles. to any great amount; with the exception therefore of those farmers whose lands are not adapted to the grain crops, and are more natural to grass, grazing and fattening cattle may succeed well, and in some hands we know it does; but yet, they can hardly compete with the more hilly, cheap, and broken lands of the southern and eastern parts of this state, the outlay for which is not over one quarter of the amount that our lands were purchased at. Therefore, it recurs with great force to the minds of this committee, that the wheat crop is the only one adapted to a profitable and successful course for the farmers of this western country to pursue, as a main dependence to make money, pay for their farms, and get out of debt.

The committee will therefore proceed briefly to state what they consider a good, judicious, and successful system for conducting a farm, and what state of preparation and rotation of crops it is necessary to pursue, to come up to that point of excellence which should be the perfection of the art; and those whose exertions come nearest to that course will, consequently, be the successful competitors for their favors.

Let a farm consisting of any number of acres, not too large—say, for example, one hundred acres of arable land, independent of wood lands, orchard, and garden—be in the first place well fenced, if with rails, well staked and ridered; or what is better, with corner stakes and yokes, the yokes placed at two or three rails from the top, in which case the stakes need not be set in the earth; or what is better still, where there is a sufficiency of stones, let the fences be made with them, and it can hardly be conceived, by those unacquainted with the process, how small and inferior an article will make a good and lasting fence, merely by the plentiful use of cedar, pine, or chestnut sticks laid in crossways with the stone, always reserving a sufficient quantity of stone to cope the wall, and form a cap, to cover and retain the whole line. Divide the whole into such sized fields as shall comport with the size of the farm, and in such a manner as will allow it always to be nearly equally divided into a three-course rotation. The fences to be clear from weeds, brambles, and shrubs, and of a sufficient height to protect against all depredation: for there is no better opiate to induce good nature, and calm and uninterrupted sleep at night, than good strong and high fences. If there are any low or springy lands, let them be thoroughly open, or under-drained—under-draining is by far the most convenient, safe, and economical.

The barns should be large, with an under-ground basement, if possible; sheds and stables, large and roomy enough to house every hoof on the farm; barn yards not too large, with water handy; a piggery, with boiling apparatus; and proper protection and fixtures for the sheep; with a well-built, snug, and convenient house; an industrious wife, not too handsome; a kitchen and flower garden; a well-chosen fruitery, and orchard—and that is what this Committee would consider a *pretty smart chance* of a beginning. Now, we would propose that there should be a flock of sheep, of a *hardy, fine-wooled* variety if for the fleece, or of a large-framed long-wooled variety if for the carcase—as an indispensable requisite to commence with, not only as to profit from themselves, but as an important element in wheat husbandry. A greater profit will be realized from the sale of the wool and carcase than is lost to the farm by the food they consume, as their manure is the perfection of food for the wheat plant, and, from its intimate division and distribution, it is in a better state to feed they oung plant than any other, except, perhaps, the artificial compounds.

The true wheat farmer should have no more cows, oxen, or horses, than are necessary to carry on the farm, and subsist the family—and those of the very best breeds. It must be very bad economy to be obliged always to keep half the farm in pasture and meadow, merely for the sake of keeping a great herd of cows; coupled with the privilege of foddering 20 or more tons of hay, and making a few pounds of butter, to sell at 8 cents per pound, the marketing of which costs more than its produce.

We would premise, that a farm, when it is right, should not have one square foot but what is arable, and capable of producing any crop put upon it; and as nearly as convenient, always to have one-third in wheat, one-third or more in clover and grass, and one-third or less in summer crops. Now let us explain the *modus operandi*: It is now spring—one-third in wheat, properly seeded; one-third or more in meadow and pasture; and such portion of the other third as shall be convenient fall-plowed, for summer crops, which is to be devoted to oats, corn, potatoes, bagas, wortzel, carrots, &c.—on which is to be expended the fresh barn-yard manure made the winter previous, or so much as is needed, and the balance composted, for dressing the summer fallow. All of the oat, corn, and potato ground, or so much as the season will admit, should be sown with wheat, after the crops come off; if any lays over, it may be sown the next spring with peas or barley, and followed with wheat.

The manure which was applied to the summer crops, is now in the best possible state for produ-

cing wheat, having lost its fermentative quality, and, by rotting, plowing, and working, has become thoroughly divided and mixed with the soil, and is in a better state to promote the production of the wheat berry than in any other shape that it can be applied. So much of the summer crop and enough of the grass in pasture to make about one-third of the arable land, comes into wheat each year. This course of cropping gives but a small portion of mowing land, after providing pasturage for the sheep and neat stock; yet, with the judicious use of the root crops, and the straw from the wheat and oats, a very small quantity of hay need be used before the first of April, and yet the whole farm stock be kept in as good order as those to which is fed a ton and half per head; by which course a great amount of land is relieved, for the grand desideratum of the wheat crop.

The meadows and part of the pasture of this year, become the summer fallow of the next; and this year's stubble, properly seeded, becomes the meadow and pasture of the succeeding season.

This course your committee consider the best, safest, and most profitable, taking into consideration the importance of keeping the soil in good heart and productiveness, and in a state of improvement, rather than impoverishing it. Yet there are some good and judicious farmers who, occasionally, where a field throws heavy to straw, follow with two or more crops of wheat alternately; when clover succeeds well, and the ground is free from weeds and foul grasses, we have known this course to succeed well, even with once plowing, but it is a course, generally speaking, more to be deprecated than praised.

Another course is pursued, by some of our best farmers, who prefer to let all the manured summer-crop land lie over to the next season, and take off a crop of barley or peas, and follow with wheat. The Committee incline to the opinion, that this course must nearly or quite exhaust and neutralize all the virtue of the previous year's manuring, and have a tendency to keep the land in a situation not improved for the wheat crop, if not losing in its qualifications to produce, for any length of time, a certain and profitable return.

Another course, pursued by equally judicious farmers, is to take a four-year course rotation, by allowing all the seeded ground to lie two full years in clover. The first year it is mowed and pastured, and the second year it is mowed or pastured till about the first of June, then plastered, and at the proper time cut for clover seed; the year after, mowed or pastured till the first week in June, when it is turned under for the summer fallow, for wheat. This course, on large farms, with a heavy stock of cattle and sheep, (as it allows more hay and pasture than the three-year course,) is a very successful method; and even for those of a medium size, may suit well for some particular soils; and perhaps in those cases where the management for saving and increasing the manure is not skilfully and judiciously performed, this is a safe course, if one-quarter of the arable land gives a sufficient quantity of acres in wheat:

The three-year course in three divisions—Field A.
1841 ..... in wheat, seeded.
1842 ..... in meadow, pasture and summer crops.
1843–4 ..... in wheat.

The four-year course, in four divisions—Field A.
1840 ..... in wheat, seeded.
1841 ..... in meadow and pasture.
1842 .. in meadow, clover-seed, and summer crops.
1843–4 ..... again in wheat.

But whatever course an enterprizing and thinking farmer may pursue, if he has a system and plan of proceeding, and pursues it constantly, he will soon come to a result as to what process is best adapted to his soil. Without regularity, system, and a code of rules and reasons, no course will succeed, nor any valuable result be reached. It is said, that bad habits, regularly followed, are not so pernicious to the human system as an irregular and mixed course of life; and the remark is peculiarly applicable to the arts of husbandry. We say—*system! system! system!* and follow it, good or bad, and conviction must follow, by comparison with others pursuing a different course.

The Committee can conceive of no better system of farming than that of 100 acres of arable land, (or double or treble that amount, if you please,) of which one-third, say 33 acres, is put into wheat producing from 800 to 1,000 bushels; with 100 to 150 fine-wooled sheep, producing from 300 to 500 pounds of wool, worth from 40 to 50 cents per pound; and the balance of the land in grass and summer crops, every item of which should be consumed on the farm, to subsist the family, hired help, and farm, stocks, and, perhaps, to help to pay mechanics; all the offal, hay, straw, and roots, going to increase the manure heap, which, with a plentiful use of plaster and clover, will more than compensate for the wheat and wool subtracted from the soil, and sold.

The Committee, in awarding their premiums, have selected those who, in the words of their instructions, came the nearest to their standard of excellence—"*reference being had to the general system of management, and the profit obtained: rather than to natural advantages or expensive improvements.*

Elisha Harmon, of Wheatland, to whom was awarded the first premium, cultivated a farm of 400 acres, 306 of which are improved; has been settled 40 years; the soil a sandy loam, inclining to gravel, abundantly filled with a limestone shale; on a part of which are beds of plaster, which are opened, and manufactured for use and sale, averaging 1,000 tons per year. This tract was originally an oak opening, with gentle undulations, and is, altogether, a splendid wheat farm. The dwelling-house, barns, and out-houses, are of a superior construction and finish. He has this year over 92 acres of wheat, yielding over 2000 bushels—has raised an average of 50 bushels of clover-seed for the last 15 years—usually alternates his crops, by wheat one year and clover two years, but has one field that has produced wheat every other year for 15 years past, without any deterioration of the land. Plowing commences, for the summer fallowing, on the first week in June and second week in September, using his sheep and the wheat cultivator intermediately between the plowings—sows from the 12th to the 20th of September, 5 pecks to the acre, of pure White Flint. His stock consists of 400 sheep and 106 lambs, Saxon and Merino. His clip of wool this year was 1,600 lbs., which sold in market for 40 cents; 7 cows, 12 horses and colts, and 30 hogs, a part of them fine Leicesters: and what particularly commended itself to this Committee was, over four miles of stone fence. His summer crops were 8 or 10 acres of corn and oats each, root crops, potatoes, &c. $10 and Vol. Transactions.

William Garbutt, of Wheatland, to whom the Committee award the credit of being the only farmer accountant, that they visited, who kept his accounts of profit and loss on every crop on his farm, and the produce and cost per acre, and the general result for some 20 years past. For a description of his farm, and his system of farming, they propose to let him tell his own story:

To the Viewing Committee of the Monroe Agricultural Society.

* * * *

But to my own business: My farm consists of 200 acres of cleared ground; but the mill-pond overflows 10 acres, which is of little value except for pasture in autumn and dry seasons, and 6 acres are occupied with roads and yards; which leaves 184 for cultivation. I generally calculate, when circumstances will admit, to have 45 acres in wheat, 15 in barley and oats, 15 in hoed crops, 40 in pasture, 40 for hay and clover-seed, and 30 in fallow. The ground intended for the hoed crop is always in clover, if practicable, highly manured with rotted manure, and plowed under in the fall. The barley stubble is twice plowed, receives a light dressing of manure, and is sowed with wheat; so that about two-fifths of my wheat crop are raised after summer crops, the remainder after fallow (viz., clover pasture;) the whole of the wheat always seeded with cloven and timothy. I annually sow from 10 to 12 tons of plaster, and the two seasons past have put 4 tons, each year, on my manure in the yards. My general average stock has been 300 sheep, 30 hogs, 15 head of cattle, and 8 horses; keep three good teams, and a span of mares for breeding, and odds-and-ends.

I stable or yard all my stock in winter, and make all my forage into manure. I keep the stock in the yards in the spring as long as I conveniently can, seldom turning sheep out before the 1st of May, cattle the 10th, and team not untill spring work is done. My first pasture is my fallow; second, clover, which is intended for hay and seed.

The cattle are wintered on corn-stalks, straw, and roots; sheep on chaff, straw, and shorts, of which I feed annually from 1,000 to 2,000 bushels. I always endeavor to feed as well as I can, with the fodder I have—not to pamper nor waste.

The amount sold from the products of the farm, from 1830 to 1840, was great, averaging from $2,200 to $3,200 per annum, independent of our farm living—it being only the amount sold. The expenses during the same period, including every expense belonging to the farm excepting those of my own and Mrs. G.'s labor, of which we make no account, was from $1,200 to $1,600 per annum. The crop of 1840 amounted to $1,813 76; expenses, $1,296 15; 1841, $1,802 44, expenses $1,214 28, 1842, $1,578 02, expenses $1,204; 1843, $1,639 63, expenses $1,219 10. I can give all particulars relative to these amounts, but this communication is already too long. The plaster and mill-feed increases the amount both in the expenses and income.

Owing to the failure of my clover, I have the present season more acres in wheat, more in fallow, less in hoed crops, less in grass, and fewer sheep than usual—viz., 57 acres in wheat, 43 in fallow, 10 in barley, 10 in hoed crops, of which 2 are in potatoes, 3 roots, and 5 corn; and 8 in oats.

Stock. 10 horses, 26 cattle, 24 hogs, 190 old sheep, and 60 lambs. Present season, 4 men by the year from the middle of July; one more for the season; 3 one month in hay and harvest, and one by the day through wheat-cutting.

And I would further state, that the great difference in my wheat crop per acre, in the various years, was more owing to the seasons than to the cultivation, or the condition of the land to produce a crop. The crops of 1833-4-5 were very heavy, yet the ground was not in any better condition than it was in 1836 and 1837, when the crops were light; and the same may be said of 1841 and 1842. The crop of 1842 was the lightest I ever had, being only 19 bushels per acre, owing to the rust; for if it had not rusted, it would have been 30 bushels per acre.

Yours most respectfully, WILLIAM GARBUTT.

John Ayrault, Perinton. This farm is of a natural soil for a grazing establishment, and is better adapted to grass than for grain crops. It contains 300 acres, 250 of which are improved. The soil is a clayey loam, with some parts rather wet, but reclaimed by extensive under-draining. Usually has under the plow from 20 to 30 acres; the balance in pasture and meadow, which produces on an average 2 tons of hay to the acre; composts his manure, and applies it as a top-dressing to his meadows; as also his straw, as it comes from the barn, and with great advantage—cuts from 60 to 65 acres of hay, and keeps his meadows lying in grass as long as they produce well, without any rotation—mows off the tops of the leaves of the oats in June, to make them start out, and to assist the young clover—has some superior stone wall, and all his fences are first-rate, mostly of white cedar, high, strong, and secure. Dwelling-house, barn, and out-houses excellent; garden neat, and laid out with taste; fruitery well-stocked with the best varieties; stock, 105 neat cattle, a part spayed heifers, and 10 calves; buys most of his stock at two years old; 6 yokes of working oxen, 50 sheep; sells his fat cattle for the Eastern market, when three and four years old, at prices ranging from $25 to $50. Taken altogether, it is a fine specimen of a well-conducted grazing farm.—Third premium of $6 and Volume of Transactions.

Romanta Hart, of Brighton. This farm contains 226 acres, 200 of which are under improvement, with a great variety of soils, from heavy clay to light openings—not naturally rich, but greatly improved by skilful culture and good management—about 70 acres in wheat, of three varieties, Flint, Hutchinson, and Sowles—with 8 acres of very superior-looking Italian spring wheat—has a lime-kiln on his farm, and is making extensive experiments with it, on various crops and soils—is not prepared, as yet, to state the result—one field limed with 60 bushels per acre—wheat, heavy and lodged, yielded over 30 bushels per acre—one field not as clean as desirable, some chess and other foul growth—12 acres of corn and potatoes, very fine—40 acres of grass, a great part of which is clean, heavy timothy, a part intended for market—has 70 sheep, [not enough,] and but few neat cattle, and horses for farm use—an excellent and well-arranged dwelling-house and garden; barns, outhouses, and fixtures good. The owner does things about right, and cannot fail of realizing all reasonable expectations.—Fourth premium of $4 and Vol. of Transactions.

John McGonegal, Irondequoit. Fifth premium of $2 and Volume of Transactions.

The Committee will close this Report with an expression of their gratitude for the kindness, good feeling, freedom, and hospitality with which they were in all cases received by the farmers, and their tidy, economical, and pleasant helpmates, as well as by their hardy sons and blooming daughters: and they feel to regret that they either have not the honor of holding an appointment on this Committee for life; or were not all bachelors, that they might have a chance for a life estate, *real* and *personal*, among the fair dwellers in these rural habitations.

L. B. LANGWORTHY,
R. HARMON, Jr.,
WM. C. CORNELL,
M. B. BATEHAM,
N. HAYWARD,
} *Committee.*

HORTICULTURAL DEPARTMENT.

BY P. BARRY.

GARDEN AND ORCHARD—OPERATIONS FOR MARCH.

Hot-Beds.—So little is done in this respect by our readers, that it would be nearly a waste of paper to say much in relation to it. Those who do intend to avail themselves of hot-bed culture for early vegetables, have undoubtedly commenced, as the weather, during the latter part of the past month, has been highly favorable.

Tomatoes, Egg-Plants, Peppers, &c., should now be sown in pots, if not done before, to be ready for planting in the open ground. Tomato plants may be raised in pots, or boxes, in an ordinary sitting-room: we saw as good plants raised in this way last spring as any produced in hot-beds.

Lettuce, Radishes, Cress, &c., can be sown in cucumber frames, to save labor, as they will be used before they will come in the way of the vines.

Brocoli, Cauliflower, and *Cabbage* seeds may now be sown, to be ready for planting out in their season.

Scions for grafting should be cut this month, if not already done—no time is now to be lost. Be careful about cutting the best kinds *only*, and keeping correct memorandums of their names. Put them away carefully in a cool cellar, with the lower ends in earth or sand, till ready for use.

Pruning orchards should now be attended to, as soon as the weather is mild enough to be out. Where the heads of fruit trees have become dense with branches, so that the sun cannot penetrate freely, they should be thinned. The fruit will be much larger and finer flavored. Use a saw, and smooth over the incisions carefully with a sharp knife.

Grape Vines, not pruned last fall, should now be pruned immediately, before the sap begins to flow. Without a proper pruning, a crop of grapes need not be expected.

Transplanting of currants, gooseberries, and such plants as put forth their leaves early, should be attended to this month, towards the latter part, if the ground should thaw, and the weather be mild.

Strawberry Beds, Bulbous Roots, &c., that have been protected, should be uncovered as soon as the weather is sufficiently warm.

If you intend to graft, you should prepare your grafting-wax, and put your implements in proper working order *now*, while you have leisure. By and by you will regret it, if you don't. See, also, that your fences are all up and in good order round your garden: if you don't, the cattle will be breaking in and destroy your beds of early vegetables, after all your trouble. Gates, too, are frequently out of order, causing great inconvenience, and often loss. Nothing, it strikes us, can be a stronger indication of slovenliness and bad husbandry than bad fences and gates, any where on the premises, but particularly around the garden or the dwelling, where neatness and good order ought to be manifested, if any where.

Provide your Garden Seeds, the first opportunity, from a responsible source. It is a ruinous economy to take any thing that comes easiest and cheapest. A few shillings are a *mere nothing,* in such cases. Don't sow a seed, unless you are as confident as it is possible to be that it is the *very best.* You should have all in readiness, in order that you may improve the first favorable moment to get in your first sowing of seeds, so that the summer will not be three-fourths spent before you have your family supplied abundantly with good healthy vegetables. These we consider an important item in domestic economy. Next month we shall say more on this subject.

"FIRE BLIGHT"—A REMEDY.

We have received a communication from Mr. John Christie, Welland Hill, St. Catharine's, C.W., in relation to the "Fire Blight," as it is termed, in the pear tree. He says, it may be easily discovered during the month of May or early part of June, by the top leaves and some of the outer branches turning a copper color, and drooping.

Trees exhibiting such symptoms of the disease, if examined, will be found to have portions of the bark shrunk and dead. These should be at once thoroughly stripped off, even should it be necessary to encircle the tree—guarding carefully against injuring the cuticle, or soft substance between the bark and the tree. After this operation has been carefully performed, in a week or so new bark begins to form; and the sap resuming its natural course, the tree puts on a beautiful and healthy appearance. Should any of the branches be black or dead, they should immediately be removed below the diseased part, and the cure will be effected."

Note.—Without expressing our belief whether the above cure, suggested by Mr. Christie, would be effectual, we would advise those who have valuable pear trees to examine them frequently and carefully, and on the first indication of the disease, hasten to remove the affected part.

This, owing to the imperfect knowledge of the *cause* of the disease, is the only cure that can with confidence be recommended, without entering into vague speculation.

We recollect having seen an article in the "Albany Cultivator" of Oct. 1844, which assumed that the "common cause of blight in pear trees is a worm, the egg of which is deposited in the branches by a small insect." He adds, that "if iron cinders or iron ore, or any other articles of iron, are placed around the roots of the tree, the insect will bid it adieu." Thus, theories and remedies multiply.

Rivers' Method of adapting the Pear to Garden Culture, and inducing Early Fruitfulness.

During the last fifteen or twenty years, the culture of the pear has received more attention from pomologists in the principal horticultural districts of both Europe and America, than any other fruit, and perhaps more, indeed, than *all* the others united. The long years of patient, zealous investigation devoted to this subject by the late Dr. Van Mons, of Belgium; Knight, of England, and others, as well as the late R. Manning, and others, in our own country—have improved and multiplied the number of varieties to an astonishing degree—that is, if any thing could be astonishing in this age of startling progression. We have ourselves seen 60 varieties exhibited on one table; but this is trifling, considering the fact that some American nurseries enumerate 300 sorts in their catalogue; and, including Europe and America, there are not less, and probably more, than 1,000 varieties now cultivated.

About the commencement of the present century, the most extensive catalogues published in France, which then was foremost in the culture of the pear, did not exceed 180 or 190 sorts, and most of these are now superseded by recent productions. The world may now be said to be *rich* in this delicious fruit, and the great subject of inquiry and research at present seems to be, what system of culture is the best adapted to spread the benefits of these vast improvements amongst the tillers of the soil,—to place them within the reach of every man who owns a square rod of earth, and that in *the shortest period of time?* The importance of this question has, for several years past, been fully appreciated in Europe; and multitudes of experiments have been made by practical fruit-growers, with a view to discover a method of inducing early fruitfulness, and adapting them to garden culture.

We have felt a deep interest in this subject. We were aware that the great mass of the people of this country were discouraged from attempting to cultivate the pear on account of the length of time it requires, usually, to bring it into a bearing state; it being a very common saying, that if you do plant a pear tree, you need not expect to live to see it bear; or, as it has been said poetically—

> He that plants pears,
> Plants for his heirs.

This obstacle in the way of the general culture of the pear has, as we have remarked, awakened a spirit of investigation on the subject, that, so far, has been attended with the most cheering success.

Root Pruning and Growing on Quince Stocks, after being thoroughly tested by the most skilful and practiced fruit-growers for eight or ten years, have been found eminently successful in obviating the objections we have mentioned. A treatise on the subject, the result of eight years' careful experience, by T. Rivers, of the Sawbridgeworth Nurseries, near London, was read before the London Horticultural Society in 1840, and shortly after published in Hovey's Magazine of Horticulture, in this country.

Mr. Rivers states, in his treatise, that he was led to the discovery of the benefits of this system in the endeavor to test his specimen trees. His object was to confine them to a small space, and promote early fruitfulness. After resorting to several methods, such as planting in brick pits, plunging in large pots, &c., all of which were expensive and unsatisfactory, the idea of frequent transplanting occurred to him, from observing that some apple trees in his nursery, that had been removed one or two consecutive years, had "acquired a stunted and prolific habit, making abundance of bloom-buds, and bearing profusely." These trees, he found, had no large feeding roots, but only a mass of fibres. "It then occurred to me," he says, "if I could keep the roots of my pear trees in a fibrous state, by frequent removals, I should make them acquire the stunted and prolific habit I had so long observed in the apples. In attempting to remove my pear trees, a second thought occurred, that it would be less trouble to dig a trench round them, and cut all their roots at a certain distance from the stem: and this completely fulfilled my anticipations. I have pruned thus radically for five seasons, and with the most satisfactory results." This is the basis of this new and improved method of fruiting the pear. At the time this treatise was published, it excited great interest, and since then it has been thoroughly put to the test, and the results, as far as we have been able to learn, have been highly satisfactory. We are familiar with numerous instances where the pear is successfully cultivated, as dwarfs, on quince stocks, standing 6 feet apart, and bearing abundantly. We cannot say that we have seen root pruning fairly tested.

Mr. Rivers published last summer, (1844,) in a supplement to his catalogue, some additional information on this subject, the result of still farther experience. His system is illustrated by engravings of the trees, roots, and tops, trained in the several methods. We copy the annexed figure from "Hovey's Magazine," which represents a pear tree trained in the pyramidical form, accompanied by the explanatory Remarks of Mr. Rivers:

Pear Tree trained in the Pyramidal form.

The adjoining cut is a portrait of a tree, of Louise Bonne, of Jersey, taken here in autumn, 1843, the tree four years old, six feet in height, grafted on a quince stock, and root-pruned. This approaches to the pyramidal shape, so well adapted to small gardens; for trees of this form may be planted six feet apart, either in a square appropriated to them, or in rows by the sides of garden walks. The adjoining was one of a group, all of which were laden with fine fruit—so much so, that they required to be fastened to stakes. It will be seen that its roots are a mass of fibres, showing the effects of root-pruning. The tree was taken up, that the artist might give it, with its roots, exactly after nature, or rather art. The pyramidal form is, perhaps, of all shapes the most eligible for pears in the open quarters, as scarcely any pruning of their branches is required. By merely going over the trees in June and July, and pinching off the ends of the side shoots to within two or three buds of their base, they soon become well furnished with bearing shoots, and assume a close pyramidal form. The height of the trees may be regulated by fancy: from six to eight feet seems the most eligible. Nothing can be more interesting than these pyramidal trees when in full bearing; indeed, they are perfectly beautiful, and their fruit, from being fully exposed to the sun, are always fine and high flavored.

We are anxious to turn public attention to this subject, so that every family may enjoy, if possible, an abundance of choice pears. We shall publish, in a future number, the detailed method of root pruning of Mr. Rivers. We would add, that trees propagated on quince stocks, intended for this mode of culture, are to be found at the Mount Hope Nurseries, as will be seen by reference to the advertising columns. They are of large size, full of bearing-buds, and will produce fruit the year after being transplanted.

MONROE CO. AGRICULTURAL SOCIETY.

LIST OF PREMIUMS FOR 1845.

HORSES.

Best stud horse, 4 v. Trans. & Rep. $3
Second best, Colman's Report & Rep. 2
Third best, vol. Amer. Inst. & Rep. 1
Best pair matched, Col. R. & Rep. 2
Second best, 3
Third best, vol. Am. Inst. & Rep. 1
Best mare (w colt,) Col. Rep. & Rep. 2
Second best, do, 1

Third best, do, v. Am. Inst. & Rep. 1
Best colt, from 2 to 3 years old, 3
Second best, do. 2
Third best, do, v. Am. Inst. 1
Best yearling colt, 3
Second best, 2
Third best, v. Am. Inst. 1

CATTLE, CLASS I.

Thorough-bred Durhams, Herefords, Devons, and Ayrshires.

Best bull, over 2 yrs. old, $8
Second best, do, Col Rep
Third best do, two vols Tr
Fourth best, do, one vol Tr
Best yearling bull, 5
Second best, 2
Third best, vol Tr
Best bull calf, 3
Second best, vol Tr
Best cow, three yrs or over, 5
Second best, Col Rep
Third best, vol Tr
Best heifer, two yrs old, 3
Second best, vol Tr
Third best, vol Am Inst
Best yearling heifer, Col Rep
Second best, 2
Third best, vol Tr
Best heifer calf, 2
Second best, vol Tr

CATTLE, CLASS II.—*Native or Grade.*

Best bull, over two yrs old, $7
Second best, do, 5
Third best, do, 3
Fourth best, do, vol Tr
Best bull, fm one to two yrs old, 5
Second best, do, 3
Third best, do, vol Tr.
Best bull calf, 2
Second best, vol Tr
Third best, vol Am Inst
Best pair steers, 3 yrs old, tr'nd, 5
Second best, do, do, 3
Third best, do, do, vol Tr
Best pair fatted oxen, Col Rep
Second best do, vol Tr
Best fatted animal, for beef, 3
Second best, vol Tr
Best pair working oxen, 5
Second best, 3
Third best, vol Tr
Best milch cow, Col Rep
Second best, 3
Third best, vol Tr
Fourth best, vol Am Inst
Best heifer, under two yrs old, 2
Second best, do, vol Tr
Third best, do, vol Am Inst

SHEEP.—*Long or Coarse Wooled.*

Best buck, Col Rep
Second best, $2
Third best, vol Tr
Best three ewes, Col Rep
Second best, 2
Third best, vol Tr
Best three lambs, Col Rep
Second best, 2
Third best, vol Tr
Best three fatted sheep, Col Rep
Second best, 2
Third best, vol Tr

SHEEP.—*Fine-Wooled.*

Best buck, Col Rep
Second best, $2
Third best, vol Tr
Best three ewes, Col Rep
Second best, 2
Third best, vol Tr
Best three lambs, Col Rep
Second best, 2
Third best, vol Tr
Best three fatted sheep, Col Rep
Second best, 2
Third best, vol Tr

SWINE.

Best boar, Col Rep
Second best, $2
Third best, vol Tr
Best sow, with her pigs, Col Rep
Second best, do, 2
Third best, do, vol Tr
Four best pigs, under 8 months, 3
Second best, do, vol Tr

FIELD CROPS.

Best acre of wheat, four vols Tr and $5
Second best, Col Rep and 3
Third best, do, and 2
Fourth best, vol Tr and 1
Best field of ten acres or more, four vols Tr and Col Rep
Best field from five to ten acres, Col Rep
Best acre of Indian corn, Col Rep and 3
Second best do, vol Tr and 3
Third best do, vol Tr and 2
Fourth best do, vol Am Inst and 1
Best acre of oats, vol Tr and 2
Second best do, vol Tr and 1
Third best do, vol Tr
Best acre of peas, 5
Second best do, 3
Third best do, vol Tr
Best acre of potatoes, 5
Second best do, 3
Third best do, vol Tr
Best half-bushel of potatoes grown from seed, 5
Second best do, do, 3
Third best do, do, vol Tr
Best half-acre of Ruta Baga, 5
Second best do, 3
Third best do, vol Tr.
Best half-acre of Mangel Wurtzel, 5
Second best do, 3
Third best do, vol Tr
Best half-acre of sugar beet, 5
Second best do, 3
Third best do, vol Tr
Best quarter acre of carrots, 5
Second best do, 3
Third best do, vol Tr
Best quarter-acre of parsneps, 5
Second best do, 3
Third best do, vol Tr

(One-third of the premiums to be paid in books.)

DOMESTIC ARTS,

Best 10 lbs butter, in rolls, $3
Second do, 2 vols Gen Far
Second best do, vol Tr
Best 10yds domestic fulled cloth, 3
Best 20 lbs packed butter made in May or June, 3
Second do, 2 vols Gen Far
Best 1-lb sewing silk, 3
Second best do, vol Tr
Second best, vol Tr
Best 10 lbs of honey, 3
Third best, 2 vols Gen Far
Second best do, 2 vols Gen Far
Best specimen of domestic manufactured silk, 3
Best 10 lbs of maple sugar, 3
Second do, 2 vols Gen Far
Second best, vol Tr
Best 10 yds home-made flannel, 3
Third best, 2 vols Gen Far

Discretionary premiums to be awarded to females for articles of domestic manufacture, not enumerated, according to the funds of the Society.

HORTICULTURAL.

(Funds raised by Gardeners and Amateurs.)

For the best twelve varieties of apples, 3 of each, $2
" second best, do, vol Tr
" third best, do, 2 vols. Gen Far
" best dozen pears, plums, peaches, and quinces, 1
" best new seedling apple, pear, and peach, each vol Tr
" best sample of grapes ripened in the open air, 2
" second best do, vol Tr
" third best do, 2 vols Gen Far
" best two each of musk melons, water melons, pumpkins, squashes, and egg plants, 1
Best two heads each of cauliflower and broccoli, 1
Best six each of beets, carrots, parsneps, turneps, salsify, celery, cabbages, onions, and tomatoes, each kind, 1
Best assortment of double dahlias, vol Tr and 1
Second best, vol Am Inst and 1
Best assortment of cut flowers, vol Tr
Second best do, 1

PLOWING MATCH.

To the owner of the team which plows one-fourth of an acre best within 60 minutes, Col Rep and 2
Second best, vol Tr and 2
Third best, vol Am Inst and 2
Fourth best, 2

The depth of the furrow must not be less than 6 inches, and the width not less than 10 inches.

ON FARMS.

For the best-managed farm, not less than 40 acres, reference being had to the general system of management and the *profits* obtained, rather than to natural advantages or expensive improvements, four vols Trans and $5
Second best, Col Rep and 4
Third best, two vols tr and 3
Fourth best, two vols tr and 2
Fifth best, two vols tr and 1
Sixth best, two vols tr

[*Committee on Farms*—Daniel Lee, (Ed. Farmer,) Rochester,—B. B. Langworthy, Greece,—John H. Robinson, Henrietta,—Elisha Harmon, Wheatland,—Romanta Hart, Brighton,—T. H. Hyatt, Rochester.]

☞ Persons desirous to compete for premiums on farms are required to give notice to either of the Committee, or to Mr. Fogg, treasurer of the society, at the Rochester Seed Store, as early as the 1st of June. The Committee will visit them all once or more during the summer.

☞ The next meeting of the Society is appointed to be held the second Tuesday of August, for appointing awarding committees, and making other arrangements for the Annual Exhibition.

JOHN H. ROBINSON, *President.*

NURSERYMEN or MARKET-GARDENERS.

TO LEASE, for a term of years, Five Acres of superior LAND, and a good Dwelling-house. The Land is in a first-rate state of cultivation, and full of manure, having been used for a market garden for several years. The above Land is within fifteen minutes' walk of Rochester Market-place. The owner, and present occupant, wishing to retire from the business, would lease it to a good tenant very reasonably. There are 12 Lights and Boxes, for early framing; also, Garden-tools and Implements for cultivating the ground. For further particulars inquire on the premises, of Mr. JOHN MORRIS, North Clinton-st.,) near Mr. Galusha's.)

N.B. Also, for sale by the subscriber, a quantity of superior early POTATOES, for seed—the true Early June, Early Manley, and Midsummer Kidneys: the Early June is the earliest potato that grows, and was sold in the Rochester market by the subscriber on the 9th day of June last—the first and finest that were in market.

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ROCHESTER PRODUCE MARKET.

Wheat,	87	a 94	Hay, ton,	$7	50	8	00	Eggs, doz.	12 14
Corn,	37½	a 40	Wood, cord,	2	00	2	50	Poultry, lb.	5 6
Barley,	31	35	Salt, bbl.,			1	13	Tallow,	
Oats,	25	00	Hams, lb.,		5		6	Hops,	10 11
Flour, (ret.)	4	25	Pork, bbl.			10	00	Wool,	35 40
Beans,	75	1 00	" cwt.	3	25	3	75	Sheep Skins,	50 75
Apples,	25	38	Beef, "	2	00	3	00	Green H'ds, lb:	3 4
Potatoes,	18	25	Lard, lb.,		5		6	Dry Hides,	6 7
Cloverseed,	4 00	5 00	Butter,		9		12	Calf skins, gr'n.	5 7
Timothy,	1	1 50	Cheese, cwt.	4	00	4	50	Feb. 26.	

MOUNT HOPE BOTANIC GARDEN AND NURSERIES, ROCHESTER, N.Y.

THE Proprietors respectfully announce, that their present stock of *Fruit and Ornamental Trees, Shrubs, and Plants* is unusually fine.

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(Successor to E. Boardman,) Rochester Nursery, Main-st

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Rochester, 19th of 10th mo., '44. ja3m. I. BUNKER & CO.